

## A NEW SPECIES AND A NEW SUBSPECIES OF *LETHE* HÜBNER (LEPIDOPTERA, NYMPHALIDAE, SATYRINAE) FROM CHINA

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**Abstract** A new species, *Lethe tingeda* sp. nov. and a new subspecies, *Lethe proxima baoxingensis* ssp. nov. from China are described.

**Key words** Lepidoptera, Satyrinae, *Lethe*, new species, new subspecies, China.

The genus *Lethe* was established by Hübner, 1819 for the monotype *Papilio europa* Fabricius, 1775, belonging to the subfamily Satyrinae. 92 species are recorded in the genus worldwide, of which 53 species were found in China (Chou, 1999).

A new species and a new subspecies of *Lethe* are described and illustrated. The type specimens are deposited in the Entomological Museum, Northwest A & F University, Yangling, Shaanxi, China (NWAUFU).

### 1 *Lethe proxima baoxingensis* ssp. nov. (Figs 1–7)

**Male.** Antennae slender, less than half length of forewings; terminated by a gradually formed slender club; composed of very short joints; joint rings white; terminal club with three very thin longitudinal ridges, hollow between the ridges. Compound eyes prominent, hairy. Palpi elongated, elevated obliquely higher than the level of the top of eyes; middle joint without middle tuft on back and clothed in front with short fine hairs; terminal joint very short.

**Forelegs.** Very minute. **Middle legs.** Tibiae shorter than femora, with short spines in line, tibial spurs strong; tarsi nearly cylindrical, with short spines in line on ventral aspect; unguis hook-like. **Hind legs.** Tibiae as long as femora.

**Forewings** 31–35 mm in length. Sc dilated at base, extending beyond discal cell.  $R_1$  and  $R_2$  arising before anterior extremity of discal cell. Discal cell shorter than half length of forewing. **Hindwings.** Outer margin invaginated slightly between  $M_1$  and  $M_2$ . Humeral crossvein short and curved.  $M_3$  arcuated intensely.  $Cu_1$  branches from posterior extremity of discal cell.

**Upperside.** Brown. Outer marginal band narrow, marginal line dark brown. A round dark

brown eyespot at sub-apical area, and a tiny eyespot behind it or absent. Outer transverse band unclear. Two to three round dark brown eyespots on hindwing. Eyespots in  $m_3$  and  $cu_1$  cell larger, but tiny to absent in  $cu_2$  cell. **Underside.** Forewing. Apical area dust-colored. Marginal band dust-colored on anterior and fulvous to posterior. Marginal line dark brown, clear. Outer transverse band clear, fulvous in narrow area close to outside of the band. Two submarginal eyespots in oblique line, larger in  $m_1$  cell and smaller in  $m_2$  cell. All the eyespots, including those in hindwing, with three concentric rings, fulvous inside, dark brown in middle and pale yellow outside, pupil white. Transverse band running obliquely from costa to  $M_3$ , angulated in middle of  $m_2$  cell and  $cu_1$  cell. A dingy yellowish bold transverse line in discal cell. Hindwing. Inner and outer transverse bands narrow, dark brown, curved irregularly. Posterior part of inner transverse band dentate. Anterior part of outer transverse band straight, oblique, arcuated from  $M_1$  to middle of  $m_2$  cell, and then angulated in  $cu_1$  and  $cu_2$  cell. Nine dark brown round submarginal eyespots present, larger in  $cu_1$  and  $rs$  cell, smaller in  $m_2$ ; abutting in  $sc + r_1$  and  $rs$  cell, but others distinct. Two in  $cu_2$  cell.

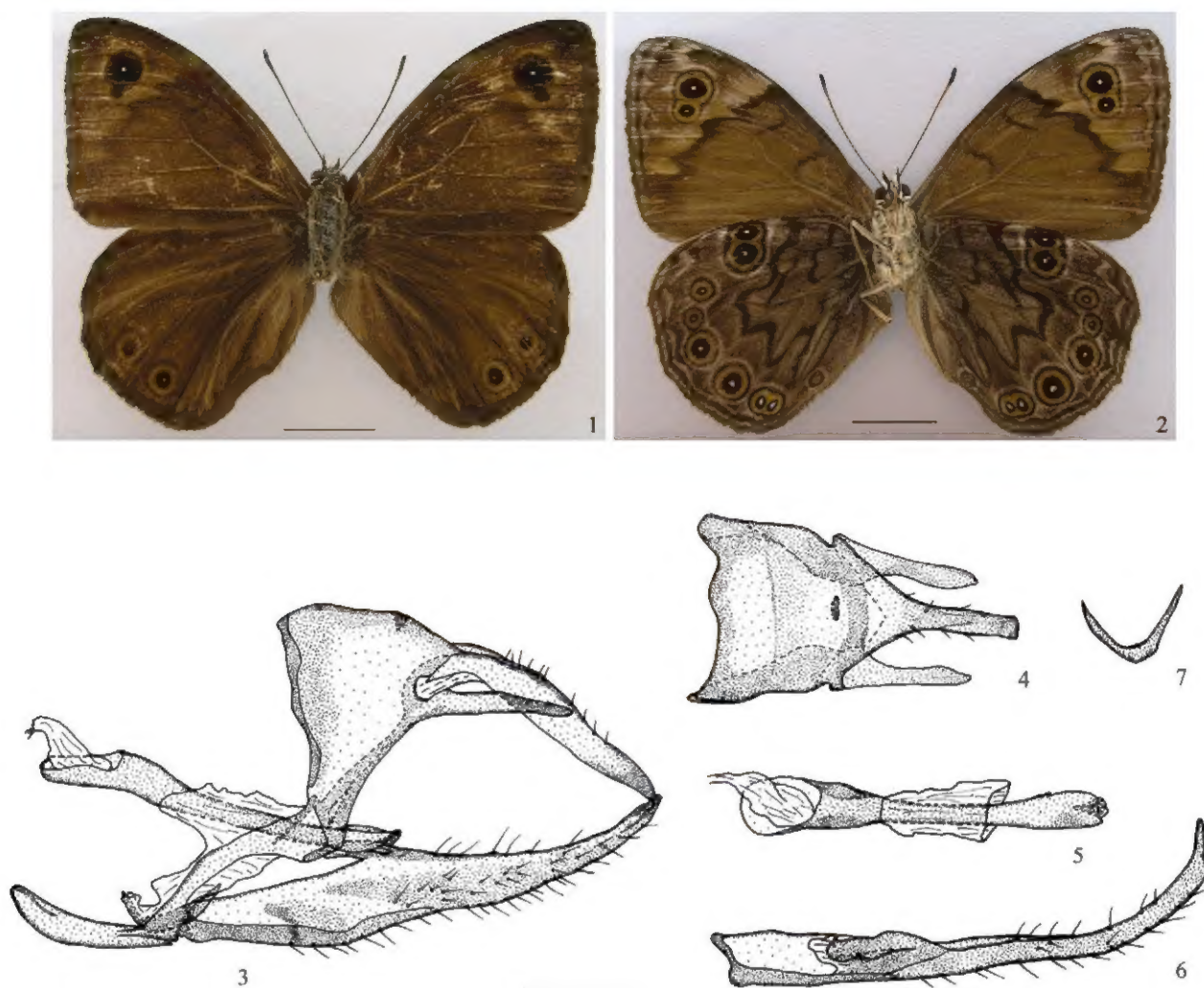
**Male genitalia.** Tegumen resembles isocles triangle shape, invaginated in middle. Uncus longer than tegumen, slender, curved gently downwards. Gnathos with sharp terminal, short and straight. Saccus long and upturned. Valve slender, tapering. Mid-part of aedeagus constricted, with odontoid process near terminus. Juxta narrow.

**Holotype** ♂, Baoxing, Sichuan Province, China (30.36°N, 102.84°E; alt. 1250 m), 23 June 2006, collector unknown. **Paratypes:** 1 ♂, 1 ♀, Baoxing, Sichuan Province, China (30.36°N, 102.84°E; alt.

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Figs 1–7. *Lethe proxima baoxingensis* ssp. nov. 1. Adult (upperside). 2. Adult (underside). 3. Genital capsule in lateral view (left valva removed). 4. Tegumen and uncus in dorsal view. 5. Aedeagus in dorsal view. 6. Left valva in dorsal view. 7. Juxta in dorsal view. Scale bars: 1–2 = 1 cm, 3–7 = 1 mm.

1 250 m), 23 June 2006, collector unknown.

**Remarks.** The species *Lethe proxima* was described by Leech (1892), which was redescribed and illustrated by Bozano (2000). This new subspecies is similar to the nominate subspecies of *Lethe proxima* Leech, 1892, but can be distinguished from it by: 1) hindwing with only two eyespots on upperside submarginal area; 2) forewing underside transverse band irregularly sinuous; 3) the course of underside hindwing transverse line between  $Cu_2$  and 2A intensely curved.

**Distribution.** China (Sichuan).

**Etymology.** The subspecies “baoxingensis” is named from its type locality Baoxing in Sichuan Province of China.

## 2 *Lethe tingeda* sp. nov. (Figs 8–14)

**Male.** Antennae buffy, slender, shorter than half of forewing. Compound eyes brown, hairy. Palpi elongated, elevated obliquely higher than level of top

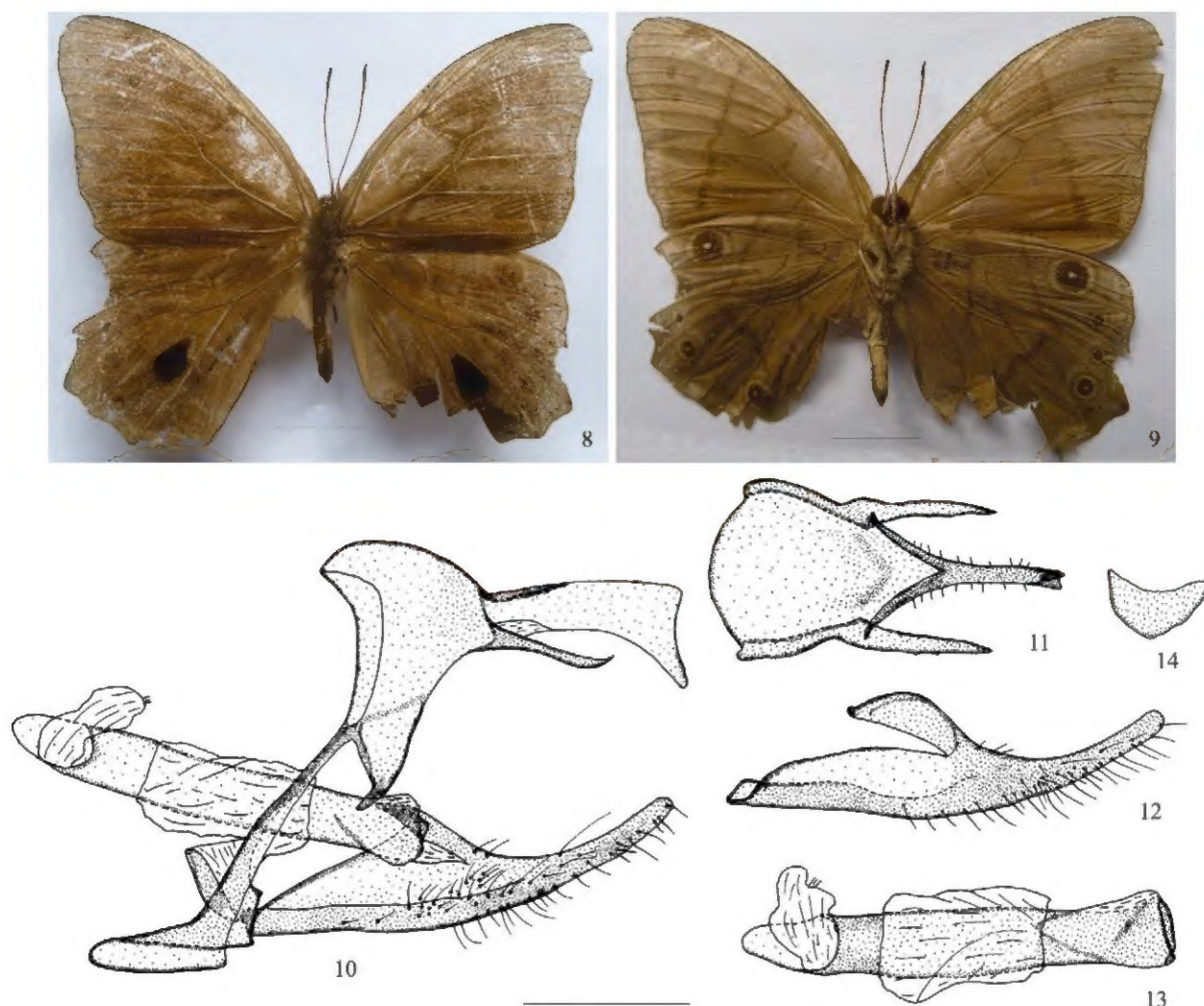
of eyes; terminal joint slim.

**Forelegs.** Very minute. Tibiae with short spines in line, tibial spurs strong; tarsi nearly cylindrical, with short spines in line on ventral aspect; unguis hook-like. Middle legs. Tibiae shorter than femora, hind leg tibiae as long as femora.

**Forewing length** 33–35 mm. Sc dilated at base.  $R_1$  and  $R_2$  arising before anterior extremity of discal cell. Discal cell shorter than half length of forewing. Outer margin curved inward slightly.

**Hindwings.** Outer margin wavy, distal end of  $M_3$  protrudent.  $M_1$  and  $M_2$  straight.  $M_3$  arcuated intensely. Forewing length 33–35 mm. Outer margin smooth. Discal cell shorter than half length of forewing. Sc dilated at base.  $R_1$  and  $R_2$  arising before anterior extremity of discal cell. Four unclear brown round spots at submarginal area of hindwing. In  $Cu_1$  cell, males possessing a mark covered with a bunch of accumbent long dark hair, like a water droplet, its margin clear and restricted in middle of cell.





Figs 8–14. *Lethe tingeda* sp. nov. 8. Adult (upperside). 9. Adult (underside). 10. Genital capsule in lateral view (left valva removed). 11. Tegumen and uncus in dorsal view. 12. Left valva in outside view. 13. Aedeagus in dorsal view. 14. Juxta in dorsal view. Scale bars: 8–9 = 1 cm, 10–14 = 1 mm.

**Upperside.** Wings light tan. No stripes in forewings. Four round brown eyespots at hindwing submarginal area, very indefinite. At  $cu_1$  cell, males possessing a clear mark, droplet-shaped, covered with tuft of dark hair. **Underside.** Colour lighter than upperside. **Forewings.** With two tiny round brown eyespots at submarginal area, two brown transverse bold lines at discal cell. **Hindwings.** Outer-transverse line close to with forewing mid-transverse line. Inner-transverse line straight. Six brown eyespots in submarginal area; eyespots in cell  $cu_1$  fade to absent.

**Male genitalia.** Anterior extremity of tegumen dorsal margin stretched out. Uncus longer than tegumen, uplifting strongly near terminus. Gnathos with sharp terminus, slender. Saccus short and thick. Valve slender, with round distal end. Aedeagus straight and strong. Juxta broad and crescent-like.

**Holotype** ♂, Mt. Daming, Guangxi Province, China (23.17°N, 108.27°E; alt. 1 200 m), 30 Sep.

2005, collector unknown. **Paratype** 1 ♂, Mt. Daming, Guangxi Province, China (23.17°N, 108.27°E; alt. 1 200 m), 30 Sep. 2005, collector unknown.

**Remarks.** This new species is similar to *Lethe christophi* (Leech), but can be distinguished from the latter by: 1) colour faded; 2) male mark covered by dark hair tuft; 3) no eyespot at cell  $cu_1$  on underside of the hindwing; 4) pupil of eyespot at cell  $m_3$  not expanded; 5) outer-transverse line at underside of forewings and hindwings not coherent; 6) uncus dorsal margin strongly uplifted.

**Distribution.** China (Guangxi).

**Etymology.** The species name “tingeda” referring to its tinged colouration and having indefinite stripes.

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## 中国黛眼蝶属一新种和一新亚种记述 (鳞翅目, 蛱蝶科, 眼蝶亚科)

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**摘 要** 记述了中国眼蝶亚科 Satyrinae 黛眼蝶属 *Lethe* Hübner, 1819 1 新种和 1 新亚种——浅色黛眼蝶 *Lethe tingeda* sp. nov., 比目黛眼蝶宝兴亚种 *Lethe proxima baoxingensis* ssp. nov., 模式标本保存于西北农林科技大学昆虫博物馆。

**比目黛眼蝶宝兴亚种, 新亚种 *Lethe proxima baoxingensis* ssp. nov. (图 1~7)**

新亚种与比目黛眼蝶指名亚种 *Lethe proxima proxima* Leech 相似, 主要区别是: 后翅正面亚缘只有 2 枚眼斑; 前翅反面

**关键词** 鳞翅目, 眼蝶亚科, 黛眼蝶属, 新种, 新亚种, 中国.  
**中图分类号** Q969.438.804

外横带不规则弯曲; 后翅反面  $Cu_2$ 、2A 脉间外横线强烈弯折。

**浅色黛眼蝶, 新种 *Lethe tingeda* sp. nov. (图 8~14)**

新种与棕褐黛眼蝶 *Lethe christophi* (Leech) 相似, 主要区别是: 颜色较浅; 雄蝶后翅性标斑小, 水滴状, 覆有黑色毛簇, 而非烙斑状; 后翅反面  $cu_1$  室内无眼斑;  $m_3$  室内眼斑瞳点不扩大; 翅反面前后翅外横线不连贯; 雄性外生殖器囊突较粗短; 钩突近端部背侧隆起较强。

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